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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/622,360	08/16/2000	Keiji Shigesada	Q60187	3575
23373	7590	01/25/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			LUK, EMMANUEL S	
			ART UNIT	PAPER NUMBER
			1722	

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/622,360	<b>Applicant(s)</b> SHIGESADA ET AL.	
	<b>Examiner</b> Emmanuel S. Luk	<b>Art Unit</b> 1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5,13,14,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,13,14,19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-5, 13, 14, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudo (5552098) in view of Maus et al (5340303), Kunuo and Ise (3647338).

Kudo teaches an injection molding methods including a method where a punch (26) can be bored into the substrate (35) immediately after the substrate is molded by injecting the resin into the cavity, when the resin is still in the molten state and not completely cured (Col. 4, lines 55-64). Kudo also teaches a gate (49) and dies (41, 42).

Kudo fails to teach a plurality of cavities and a hot runner.

Maus teaches injecting molten resin material into a cavity (4), fixed and movable die (1,2), cut punch (9), having undercuts (11) and resin reservoir (12).

Ise teaches a process of pushing material via rods (11) and dispelling unhardened material remaining in the runner (Col. 4, lines 14-35). The movement of the rods also acts as a cut punch in the molded material and also some material will be pushed back into the runner (Fig. 3, 4), the runner being the gate for the individual cavity. Thereby, Ise teaches a pushing material back into the gate. Ise also teaches multiple cavities (3<sub>2</sub>, 4<sub>2</sub>) and rods (11, 11', punches). This is a multiplied effect of producing a plurality of products via simultaneously molding of a plurality of elements. Incorporating the multiple cavities and cut punches of Ise into Maus would also allow for multiple reservoirs. The punches of Ise are moved to close off the gate and push material from the runner and the movement path of the punches are several times larger than the communicating path.

Kunio teaches a valve gate structure as a valve pin (26) that moves forward to cut off the flow of the material (R) to the gate (23) as it joins with gate closing part (33) to prevent material from flowing into the cavity (3).

It would have been obvious to one of ordinary skill in the art to modify Maus with have a cut punch pushing material back into the gate and having a plurality of cavities, resin reservoirs and cut punches as taught by Ise to mold a plurality of molded products, a valve gate structure as taught by Kunio to shut off the flow of materials to the gate.

In regards to claim 5, the resin reservoir corresponding to a shape of the opening of the resin molded product, the punch (9) corresponds to the shape of the resin reservoir (12).

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-5, 13-14, 19 and 20 have been considered but are moot in view of the new ground(s) of rejection. Examiner have considered applicant's argument, however, a new prior art reference does teach that is known in the art of a method of punching the material while it is still molten. It addresses the main argument presented by the applicants about the process wherein the punch pushes back molten material.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ohno (5460508) teaches a punch (5B) that pushes material back into the runner to be remelted and reused. However, it is not a molten material.

Wilson (2698464) also teaches pushing the sprue back for remelting and reuse.

McNeely (3989436) teaches partial cooling of the material before punch is locked into place.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (571) 272-1134. The examiner can normally be reached on Monday-Thursday 8 to 5 and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EL

DUANE SMITH  
PRIMARY EXAMINER

*D. Smith*  
*1-23-06*